

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1 to 7 (canceled).

8. (currently amended): A method for producing a thin film crystal wafer for a III-V group compound semiconductor device, comprising the steps of:

laminating required compound semiconductor thin film crystal layers on a semiconductor substrate by epitaxial growth to obtain a III-V group compound semiconductor single crystal; and

forming a doped Si-layer on said III-V group compound semiconductor single crystal by epitaxial growth,

wherein said steps are performed in a same epitaxial growth furnace.

9. (original): The method according to claim 8, wherein said epitaxial growth is performed by a metal organic vapor phase epitaxy method (MOVPE method) or a molecular beam epitaxy method (MBE method).

10. (original): The method according to claim 8, wherein said III-V group compound semiconductor single crystal is a GaAs single crystal.

11. (currently amended): The method according to claim 8, wherein, when said doped Si-layer is formed, a thin film layer of said III-V group compound semiconductor single crystal to be joined to said doped Si-layer is n-type doped with Si.

12. (currently amended): The method according to claim 8, wherein a thin film layer of said compound semiconductor single crystal contains As, and, when said doped Si-layer is formed, said doped Si-layer is n-type doped with As in a thin film crystal layer of said III-V group compound semiconductor single crystal to be joined to said doped Si-layer.

13. (currently amended): The method according to any one of claims 8 to 12, wherein said doped Si-layer is formed as a single crystal layer, a polycrystalline layer or an amorphous layer.

14. (currently amended): A method for producing a semiconductor device using a III-V group compound semiconductor single crystal, comprising the steps of:

laminating required compound semiconductor thin film crystal layers on a semiconductor substrate by epitaxial growth to obtain a III-V group compound semiconductor single crystal;

forming a doped Si-layer on said III-V group compound semiconductor single crystal by epitaxial growth,

wherein said steps are performed in a same epitaxial growth furnace; and then

forming a metal electrode acting as an ohmic electrode on said doped Si-layer.